

1. An electrode composition comprising:
a current conducting material; and
a heteroaryl-metal complex in contact with said current conducting material,
wherein said heteroaryl-metal complex is of the formula:



wherein

a is an integer from 1 to 6;

m and n are absolute value of oxidation state of Y or $[M-(L)_a]$, respectively; or

if $[M-(L)_a]$ is not charged Y is not present and said heteroaryl-metal complex is of the formula $M-(L)_a$;

M is a metal;

Y is a counterion; and

each L is independently a heteroaryl moiety containing one or more coordinating heteroatoms.

2. The electrode composition of Claim 1 having work function of about 3.5 eV or less.

3. The electrode composition of Claim 1, wherein said heteroaryl-metal complex is of the formula $M-(L)_a$.

4. The electrode composition of Claim 3, wherein a is an integer of 2 or 3.

5. The electrode composition of Claim 4, wherein M is a transition metal.

6. The electrode composition of Claim 5, wherein M is selected from the group consisting of Ru, Cr, Fe, Zn, Co, Mn, Cu, Os, Rh, and Ni.

7. The electrode composition of Claim 6, wherein M is selected from the group consisting of Ru and Cr.

8. The electrode composition of Claim 5, wherein L is a polypyridyl or phenanthroline moiety.

1 9. The electrode composition of Claim 8, wherein L is selected from the
2 group consisting of optionally substituted 2,2'-bipyridyl, optionally substituted 1,10-
3 phenanthroline, optionally substituted 2,2',6',2''-terpyridyl and a derivative thereof.

1 10. The electrode composition of Claim 8, wherein L is a polypyridyl
2 moiety.

1 11. The electrode composition of Claim 10, wherein L is selected from the
2 group consisting of 4,4',5,5'-tetramethyl-2,2'-bipyridyl; 2,2'-bipyridyl; and 2,2',6',2''-
3 terpyridyl.

1 12. The electrode composition of Claim 1, wherein said current conducting
2 material is a metal or a metal alloy.

1 13. The electrode composition of Claim 12, wherein said current
2 conducting material comprises silver, gold or a mixture thereof.

1 14. A light emitting device comprising
2 an anode;
3 a cathode comprising a current conducting material in contact with a
4 heteroaryl-metal coordination complex; and
5 an organic light emissive material located inbetween said anode and said
6 heteroaryl-metal coordination complex.

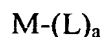
1 15. The light emitting device of Claim 14, wherein the work function of
2 said heteroaryl-metal coordination complex is 3.5 eV or less.

1 16. The light emitting device of Claim 15 further comprising an organic
2 hole transport material located inbetween said light emissive material and said anode.

1 17. The light emitting device of Claim 16, wherein said heteroaryl-metal
2 coordination complex is thermally evaporated to form a conducting thin film.

1 18. An electronic device comprising an electrode of Claim 1.

1 19. A composition comprising a metal or a metal alloy in contact with a
2 heteroaryl-metal coordination complex, wherein said heteroaryl-metal coordination complex
3 is of the formula:



4
5 wherein

6 a is an integer from 1 to 6;

7 M is a metal;

8 Y is a counterion; and

9 each L is independently a heteroaryl moiety containing one or more
10 coordinating heteroatoms.

1 20. A method for producing a light emitting device, said method
2 comprising:

3 forming a thin film of heteroaryl-metal coordination complex on a first
4 electrode; and attaching a second electrode to the heteroaryl-metal coordination complex
5 film, wherein one of the first or the second electrodes comprises a thin film of light emissive
6 material and one of the first or the second electrode is an anode and the other is a cathode.

1 21. The method of Claim 20, wherein the heteroaryl-metal coordination
2 complex is vacuum vapor deposited onto the first electrode.

1 22. The method of Claim 21, wherein the first electrode comprises a metal
2 oxide coated with a thin film of a conducting polymer.

1 23. The method of Claim 20, wherein the second electrode is vacuum
2 vapor deposited onto the heteroaryl-metal coordination complex.

1 24. The method of Claim 20, wherein the first electrode comprises a
2 patterned substrate.